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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,961	02/15/2002	Nallan C. Suresh	13553-06704	2025

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EXAMINER
MORGAN, ROBERT W

ART UNIT	PAPER NUMBER
3626	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/076,961	SURESH ET AL.
	Examiner	Art Unit
	Robert W. Morgan	3626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 December 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 7-19* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Notice to Applicant

1.   In the amendment filed 12/10/04, the following has occurred: Claims 1, 3, 8, 9 and 15

have been amended. Now claims 1-5 and 7-19 are presented for examination.

Claim Rejections - 35 USC § 112

2.   The rejections under 35 U.S.C. 112, second paragraph have been withdrawn by the

Examiner based on the changes made by the Applicant to the claims.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1-2, 7, 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

U.S. Patent No. 5,253,164 to Holloway et al. and U.S. Patent No. 6,253,186 to Pendleton, Jr. et

al. and "Maximum likelihood continuity mapping for fraud detection" to Hogden, for

substantially the same reasons given in the previous Office Action (dated 9/10/04) in view of

U.S. Patent No. 6,223,164 to Seare et al. Further reasons appear below.

(A)   Claims 2, 7 and 19 have not been amended, and are rejected for the same reasons given in

the previous Office Action (dated 9/10/04), and incorporated herein. Further reasons appear

hereinbelow.

(B)   Claims 1 and 15 have been amended to now recite the step of "…by segregating by entity

and for each entity sorting by date, then, responsive to sorting, determining states to be modeled,

wherein said states are identified at levels based on a state hierarchy process, and wherein each

sequence comprises one or more states".

As per this limitation, Pendleton Jr. et al. teaches an encoded claim file is preferably

sorted by supplier or provider code (reads on "segregating by entity") to produce a sorted

encoded claim file (see: column 2, lines 12-14). Pendleton Jr. et al. also teaches a claim file (26,

Fig. 4) that includes healthcare states such as Health Care Procedure Code System (HCPCS)

code, other codes, dates (reads on "sorting by date"), units, pricing information, total dollar

amount requested, or other information (see: column 6, lines 10-20). Hogden teaches a time-

series analysis technique used to estimate the likelihood of a data sequences using training data

composed of sequences of symbols (reads on "sequence comprises one or more states") such as

medical procedure codes to create a model of sequence generation (reads on "determining states

to be modeled") (see: page 2, paragraph 5).

Holloway et al., Pendleton Jr. et al. and Hogden fail to teach states identified at levels

based on a state hierarchy process.

Seare et al. teaches a method and system for analyzing historical medical provider billing

including initializing at step 701 and sorting of CPT at step 702 in descending order of each line

of a claim that includes a service, which are unique date of service beginning with the "date of

service from" for the first line item and ending with the "date of service to" for the last line item

typical called an episode of care (see: column 21, lines 51-60, column 22, lines 50-61 and

column 19, lines 15-67). Seare et al. further teaches a timeline used to track a patient's episode of

care the may occur in a given patient history (see: column 8, lines 31-32). The Examiner

considers the tracking of an episode of care for a patient as a means to identified states at

different levels based on a state hierarchy process according to dates of the procedures.

One of ordinary skill in the art at the time the invention was made would have found it obvious to include a method and system for analyzing historical medical provider billing with the system as taught by Holloway et al., Pendleton Jr. et al. and Hogden with the motivation of providing a system that allowing for comparison of treatment cost and patient outcomes in order to determine the most effective treatment approach (see: Seare et al.: column 1, lines 31-34).

5.   Claims 3-5, 8-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,253,186 to Pendleton, Jr. et al. in view of "Maximum likelihood continuity mapping for fraud detection" to Hogden, for substantially the same reasons given in the previous Office Action (dated 9/10/04) in view of U.S. Patent No. 6,223,164 to Seare et al. Further reasons appear below. Further reasons appear below.

(A)   Claims 4-5, 10-14 and 16-18 have not been amended, and are rejected for the same reasons given in the previous Office Action (dated 9/10/04), and incorporated herein. Further reasons appear hereinbelow.

(B)   Claim 3 has been amended to now recite the step of "... and wherein said sequences of healthcare states are created by segregating by entity and for each entity and for each entity sorting by date, then, responsive to sorting, determining states to be modeled, wherein said states are identified at levels based on state hierarchy process, and wherein each sequences one or more states".

As per this limitation, Pendleton Jr. et al. teaches an encoded claim file is preferably sorted by supplier or provider code (reads on "segregating by entity") to produce a sorted encoded claim file (see: column 2, lines 12-14). Pendleton Jr. et al. also teaches a claim file (26, Fig. 4) that

includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other

codes, dates (reads on "sorting by date"), units, pricing information, total dollar amount

requested, or other information (see: column 6, lines 10-20). Hogden teaches a time-series

analysis technique used to estimate the likelihood of a data sequences using training data

composed of sequences of symbols (reads on "sequence comprises one or more states") such as

medical procedure codes to create a model of sequence generation (reads on "determining states

to be modeled") (see: page 2, paragraph 5).

Holloway et al., Pendleton Jr. et al. and Hogden fail to teach states identified at levels

based on a state hierarchy process.

Seare et al. teaches a method and system for analyzing historical medical provider billing

including initializing at step 701 and sorting of CPT at step 702 in descending order of each line

of a claim that includes a service, which are unique date of service beginning with the "date of

service from" for the first line item and ending with the "date of service to" for the last line item

typical called an episode of care (see: column 21, lines 51-60, column 22, lines 50-61 and

column 19, lines 15-67). Seare et al. further teaches a timeline used to track a patient's episode of

care the may occur in a given patient history (see: column 8, lines 31-32). The Examiner

considers the tracking of an episode of care for a patient as a means to identified states at

different levels based on a state hierarchy process according to dates of the procedures.

One of ordinary skill in the art at the time the invention was made would have

found it obvious to include a method and system for analyzing historical medical provider billing

with the system as taught by Holloway et al., Pendleton Jr. et al. and Hogden with the motivation

of providing a system that allowing for comparison of treatment cost and patient outcomes in

order to determine the most effective treatment approach (see: Seare et al.: column 1, lines 31-

34).

(C)   Claims 8-9 have been amended to now recite the step of "...by segregating by entity and

for each entity sorting by date, then, responsive to sorting, determining states to be modeled,

wherein said states are identified at levels based on a state hierarchy process, and wherein each

·sequence comprises one or more states".

As per this limitation, Pendleton Jr. et al. teaches an encoded claim file is preferably sorted by

supplier or provider code (reads on "segregating by entity") to produce a sorted encoded claim

file (see: column 2, lines 12-14). Pendleton Jr. et al. also teaches a claim file (26, Fig. 4) that

includes healthcare states such as Health Care Procedure Code System (HCPCS) code, other

codes, dates (reads on "sorting by date"), units, pricing information, total dollar amount

requested, or other information (see: column 6, lines 10-20). Hogden teaches a time-series

analysis technique used to estimate the likelihood of a data sequences using training data

composed of sequences of symbols (reads on "sequence comprises one or more states") such as

medical procedure codes to create a model of sequence generation (reads on "determining states

to be modeled") (see: page 2, paragraph 5).

Holloway et al., Pendleton Jr. et al. and Hogden fail to teach states identified at levels

based on a state hierarchy process.

Seare et al. teaches a method and system for analyzing historical medical provider billing

including initializing at step 701 and sorting of CPT at step 702 in descending order of each line

of a claim that includes a service, which are unique date of service beginning with the "date of

service from" for the first line item and ending with the "date of service to" for the last line item

typical called an episode of care (see: column 21, lines 51-60, column 22, lines 50-61 and

column 19, lines 15-67). Seare et al. further teaches a timeline used to track a patient's episode of

care the may occur in a given patient history (see: column 8, lines 31-32). The Examiner

considers the tracking of an episode of care for a patient as a means to identified states at

different levels based on a state hierarchy process according to dates of the procedures.

One of ordinary skill in the art at the time the invention was made would have

found it obvious to include a method and system for analyzing historical medical provider billing

with the system as taught by Holloway et al., Pendleton Jr. et al. and Hogden with the motivation

of providing a system that allowing for comparison of treatment cost and patient outcomes in

order to determine the most effective treatment approach (see: Seare et al.: column 1, lines 31-

34).

Response to Arguments

6.   Applicant's arguments filed 12/10/04 have been fully considered but they are not

persuasive. Applicant's arguments will be addressed hereinbelow in the order in which they

appear in the response 12/10/04.

(A) In the remarks, Applicants argue in substance that, (1) Pendleton does not teach,

suggest or contemplate processing a set of the claims into a date-ordered entity specific sequence

of states; (2) Nowhere does Pendleton use "date" in the teachings after the sort operation, which

is after the extraction; (3) Nowhere does Pendleton teach or suggest state sequences having more

that two states or long sequences; and (4) Applicant is of the opinion that the Examiner's

construction is a hindsight construction and it is impermissible to use the claimed invention as an

instruction manual or "template" to piece together the teachings of the prior art so that the

claimed invention is rendered obvious.

(B) In response to Applicant's argument that, (1) Pendleton does not teach, suggest or

contemplate processing a set of the claims into a date-ordered entity specific sequence of states;

and (2) Nowhere does Pendleton use "date" in the teachings after the sort operation, which is

after the extraction. The Examiner respectfully submits that the Pendleton Jr. et al. reference

teaches an encoded claim file is preferably sorted by supplier or provider code to produce a

sorted encoded claim file (see: column 2, lines 12-14). Pendleton Jr. et al. also teaches a claim

file (26, Fig. 4) that includes healthcare states such as Health Care Procedure Code System

(HCPCS) code, other codes, dates, units, pricing information, total dollar amount requested, or

other information (see: column 6, lines 10-20). In addition, Pendleton, Jr. et al. teaches in Fig. 5

that encoded claim data (40, Fig. 5) is sorted at step 46 and becomes a sorted encoded claim file

(48, Fig. 5) (see: Fig. 5). The Examiner considers all information in the encoded claim data file

(40, Fig. 5) that includes health care states and date of service to be sorted at step 46 when the

data becomes the encoded claim file (48, Fig. 5).

(C) In response to Applicant's argument that, (3) Nowhere does Pendleton teach or

suggest state sequences having more that two states or long sequences. The Examiner

respectfully submitted that the Hodge reference, and not Holloway et al. and Pendleton, Jr. et al.,

per se, that was relied upon for the specific teaching of a time-series analysis technique used to

estimate the likelihood of a data sequences using training data composed of sequences of

symbols (reads on "sequence comprises one or more states") such as medical procedure codes to

create a model of sequence generation (see: page 2, paragraph 5). Holloway et al. and Pendleton,

Jr. et al. was relied on for primarily teaching a claim file (26, Fig. 4) that includes healthcare

states such as Health Care Procedure Code System (HCPCS) code, other codes, dates, units,

pricing information, total dollar amount requested, or other information (see: Pendleton, Jr. et al.:

column 6, lines 10-20). Thus, the proper combination of the applied references would be the

incorporation of Hodge's time-series analysis technique with system as taught by Holloway et al.

and Pendleton, Jr. et al.

(D) In response to Applicant's argument that, (4) Applicant is of the opinion that the

Examiner's construction is a hindsight construction and it is impermissible to use the claimed

invention as an instruction manual or "template" to piece together the teachings of the prior art

so that the claimed invention is rendered obvious. The Examiner respectfully submits that it must

be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based

upon hindsight reasoning. But so long as it takes into account only knowledge which was within

the level of ordinary skill at the time the claimed invention was made, and does not include

knowledge gleaned only from the Applicant's disclosure, such a reconstruction is proper. See *In*

re McLaughlin, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In addition, one cannot show nonobviousness by attacking references individually where

the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In addition, the test for obviousness is not whether the features of a secondary reference may be

bodily incorporated into the structure of the primary reference; nor is it that the claimed

invention must be expressly suggested in any one or all of the references. Rather, the test is what

the combined teachings of the references would have suggested to those of ordinary skill in the

art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
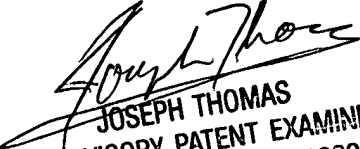
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Morgan whose telephone number is (571) 272-6773. The examiner can normally be reached on 8:30 a.m. - 5:00 p.m. Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on (571) 272-6776. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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